

**ABSTRACT**

The bipolar plate is thinner because it includes in a single plane all of the channels (21) for  
5 circulation of the oxidiser, the fuel and the coolant fluid (41).

The feed plate, which is preferably made of a composite material, has on each of its faces (1A, 1B) a network of channels for the circulation either of  
10 oxidiser or fuel, which are supplied through feed apertures (2, 3) passing through the plate. Refrigeration is achieved by means of feed apertures (4) feeding into one or more refrigeration channels (41) positioned between the parts of the circulation  
15 channels (21) for the oxidiser or the fuel. Possible through passages (43) allow these different channels to pass from one face to the other so as to organise the circulation and the removal of these three fluids. It is thus possible to distribute the oxidiser and the  
20 fuel to both sides of the plate, while also arranging its refrigeration.

Application to fuel cells of average and high power.

25       Figure 1.